AEROSPACE NESHAP/ CTG WORKSHOP

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WORKSHOP DATES

EPA Region	Location	Dates
I	Newington, CT	August 4
IV	Cocoa Beach, FL	August 6-7
VII	Kansas City, KS	August 13
X	Seattle, WA	August 18
IX	San Francisco, CA	August 19-20

AEROSPACE NESHAP

Proposed	June 6, 1994
Promulgated	September 1, 1995
Correction notices	February 9, 1996
	December 17, 1996
Proposed amendments	October 29, 1996
Final amendments	March 27, 1998
Proposed amendments	March 27, 1998
Final amendments	August 1998
Compliance date	September 1, 1998

AEROSPACE NESHAP COMPLIANCE SCHEDULE (for Existing Sources)

Initial Notification	September 1, 1997
Compliance Date	September 1, 1998
Initial Statement of Compliance	May 1, 1999

AEROSPACE NESHAP BACKGROUND

- Historically, aerospace industry was governed by the Miscellaneous Metal Parts Control Techniques Guidelines (VOC limited to 3.5 lb/gal)
- Industry asked for an Aerospace CTG to:
  - Develop realistic rules for Aerospace
  - Provide guidance leading to consistency among State regulations
- 1990 Clean Air Act Amendments required:
  - Aerospace CTG (to be completed by 1995)
  - Aircraft Engine Test Cell Study (completed September 30, 1994)
- EPA decided to streamline the NESHAP and CTG projects: the Aerospace CTG and the Aerospace NESHAP were worked on concurrently

AEROSPACE NESHAP BACKGROUND

- AIA Clean Air Task Group formed

Aerospace Companies	Airlines
DoD	National Paint & Coatings Association
FAA	Aerospace Suppliers
NASA	Natural Resources Defense Council
ATA	Various States

- NESHAP project started in 1991
- Series of “industry-roundtable” meetings were held in Durham, NC
- Conducted several site visits
- Section 114 Questionnaire mailed out and data gathered in 1993-1994

AEROSPACE NESHAP BACKGROUND (cont'd)

- Section 114 Questionnaire Recipients

The Boeing Company

PEMCO Aeroplex

Lockheed Corporation

United Airlines

Cherry Point Naval Air Station

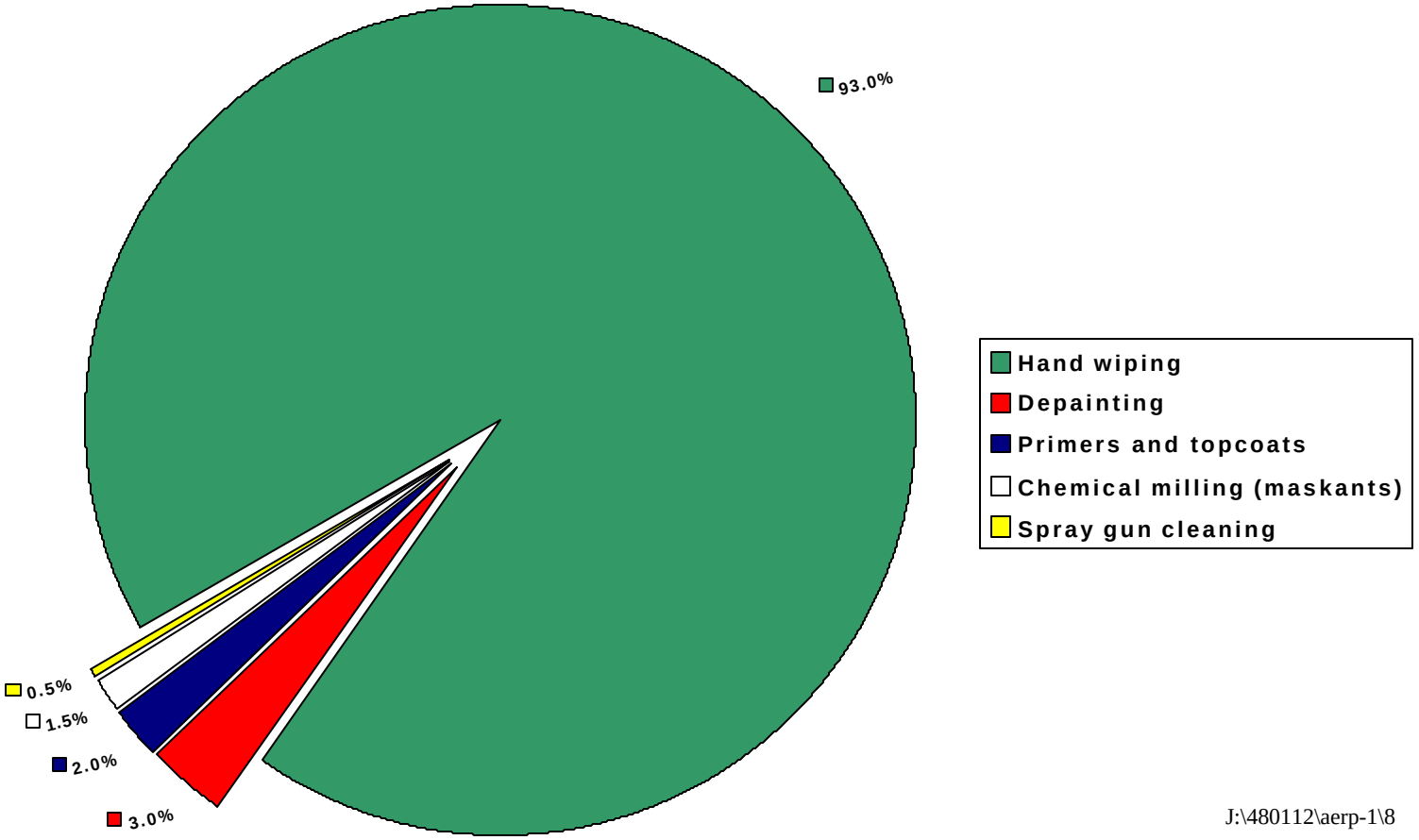
Beech Aircraft

Kaman Aerospace Corporation

McDonnell Douglas Corporation

Tinker Air Force Base

AEROSPACE NESHAP
NATIONWIDE BASELINE HAP EMISSIONS
(208,000 tons/yr - 1993)



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AEROSPACE NESHAP

- Handwipe cleaning emissions:
  - — 58 pounds of annual HAP emissions per employee (average)

AEROSPACE NESHAP

- Inorganic HAP emissions:
  - Estimated to be <400 lb/yr for all aerospace facilities (nationwide)

AEROSPACE NESHAP
Part 63, Subpart GG

Section

63.741 Applicability and Designation of Affected Sources
63.742 Definitions
63.743 Standards: General
63.744 Standards: Cleaning Operations
63.745 Standards: Primer and Topcoat Application Operations
63.746 Standards: Depainting Operations
63.747 Standards: Chemical Milling Maskant Application Operations
63.748 Standards: Handling and Storage of Waste
63.749 Compliance Dates and Determinations
63.750 Test Methods and Procedures
63.751 Monitoring Requirements
63.752 Recordkeeping Requirements
63.753 Reporting Requirements

NESHAP APPLICABILITY

The Aerospace NESHAP applies to all (major source) facilities engaged in original equipment manufacture and/or rework of commercial, civil, or military aerospace vehicles or components.

NESHAP APPLICABILITY

- Aircraft maintenance facilities are covered by the NESHAP
- Applicable requirements depend on regulated activities

NESHAP APPLICABILITY

- NESHAP General Provisions do apply
- Table 1 to subpart GG (published in March 27, 1998 amendments) summarizes GP vs. GG applicability

NESHAP EXEMPTIONS

- Parts and assemblies not critical to the vehicle's structural integrity or flight performance
- Coatings and/or solvents containing HAP and VOC <0.1% for carcinogens or 1.0% for noncarcinogens
- Space vehicles (except depainting)
- R&D; QC; lab testing

United States
Environmental Protection Agency

March 1998

Office of Air Quality Planning & Standards (MD-13)

EPA

New Regulation Controlling Air Emissions from Aerospace Manufacturing and Rework Facilities 40 CFR 63, Subpart GG

Printed on recycled paper

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CLEANING OPERATIONS

- Handwipe cleaning
  - — Composition requirements
  - — Composite vapor pressure ≤45 mm Hg
  - — Volume reduction >60%
- Spray gun cleaning--four techniques
- Flush cleaning--enclosed container
  --collection system
-

TABLE 1. COMPOSITION REQUIREMENTS FOR APPROVED CLEANING SOLVENTS

Cleaning solvent type	Composition requirements
Aqueous	Cleaning solvents in which water is the primary ingredient (≥80 percent of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzyme mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g., high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, pH buffers, and antifoaming agents. Aqueous solutions must have a flash point greater than 93EC (200EF) (as reported by the manufacturer), and the solution must be miscible with water.
Hydrocarbon-based	Cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20EC (3.75 in. H_2O at 68EF). These cleaners also contain no HAP.

PRIMER AND TOPCOAT APPLICATION

- Low-volume (50 gal/yr) exemption
- Coating limits:
  - — Primers: 350 g/L (2.9 lb/gal)
  - — Topcoats: 420 g/L (3.5 lb/gal)
- GA rework coating limits:
  - — Primers and topcoats: 540 g/L (4.5 lb/gal)

PRIMER AND TOPCOAT APPLICATION

- Compliance options:
  - — Individual coating limits
  - — Monthly volume-weighted averaging
  - — Control system ≥81%
  - — Specific application techniques
  - — Inorganic HAP (filters)

DEPAINTING REQUIREMENTS

- Non-HAP chemical strippers
- Spot stripping and decal removal allowance
- Dry media blasting: inorganic HAP filtration requirements
- Mechanical and hand sanding are exempt
- Control system ≥81% (before 6/4/94)
  ≥95% (after 6/4/94)
-

DEPAINTING EXEMPTIONS

- Do not apply to facilities that depaint ≤6 completed vehicles per year
- Do not apply to the depainting of parts or units normally removed from the vehicle (except for wings and stabilizers)

CHEMICAL MILLING MASKANTS

- Low-volume (50 gal/yr) exemption
- Organic HAP/VOC limits
  - — Type I--622 g/L (5.2 lb/gal)
  - — Type II--160 g/L (1.3 lb/gal)
- Compliance options
  - — Individual limits
  - — Monthly volume-weighted averaging
  - — Control system ≥81%

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CHEMICAL MILLING MASKANTS

- Exempt maskants
  - — Bonding
  - — Critical use and line sealer
  - — Seal coat
  - — Combination (Type I and II etchants)
  - — Used for touch-up

REPORTING REQUIREMENTS

Semiannual

Cleaning

- Handwipe
- Spray gun

Primer/topcoat

Depainting

Maskant operations

Annual

Primer/topcoat

- Booth parameter exceedances

Depainting

- Annual average exceedances (spot stripping allowance)
- Booth parameter exceedances

RECORDKEEPING vs. REPORTING

- Most of the recordkeeping burden will involve initial form/tracking development
- Not all required records have to be reported
- Compliance minimizes R&R requirements

AEROSPACE NESHAP AMENDMENTS (Finalized 3/98)

- Space vehicle exemption (except for depainting requirements)
- Exemptions for antique aircraft (>30 years old)
- Alternate units for spot stripping/decal removal allowance
- New/revised definitions
  - Type I/II etchants
  - Chemical milling maskant
  - Specialty coating
- Method 319: Test method for determining filtration efficiency
- Exemption for waterborne coatings
- Exemption for hand-held spray can applications (inorganic HAP)

AEROSPACE NESHAP AMENDMENTS (Finalized 3/98) (cont'd)

- Requirements for new affected sources (spray booths)
- Emissions averaging
- Continuous monitoring ® monitor once per shift
- Applicability of General Provisions
- Specialty coatings
- Miscellaneous changes
- Technical corrections

AEROSPACE NESHAP AMENDMENTS (To be Finalized 8/98)

- New definitions for “general aviation” and “general aviation rework facility”
- Separate coating limits for primers and topcoats used at GA rework facilities (540 g/L)
- Pumpless waterwash systems
- Automated spray equipment nozzle tips
- Method 319: Charged media certification
- Technical and miscellaneous corrections

AEROSPACE NESHAP AMENDMENTS (To be Finalized 8/98)

General aviation (GA) means that segment of civil aviation that encompasses all facets of aviation except air carriers, commuters, and military. General aviation includes charter and corporate-executive transportation, instruction, rental, aerial application, aerial observation, business, pleasure, and other special uses.

General aviation rework facility means any aerospace facility with the majority of its revenues resulting from the reconstruction, repair, maintenance, repainting, conversion, or alteration of general aviation aerospace vehicles or components.

AEROSPACE CTG

"Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations"-- EPA-453/R-97-004. (December 1997)

Initial draft-- March 1996

Proposed-- October 29, 1996

Final-- March 27, 1998

AEROSPACE CTG

AEROSPACE CTG

56 SPECIALTY COATINGS (see Table 4-1 in CTG)

SPECIALTY COATING means a coating that, even though it meets the definition of a primer, topcoat, or self-priming topcoat, has additional performance criteria beyond those of primers, topcoats, and self-priming topcoats for specific applications. These performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesively joining substrates, or enhanced corrosion protection.

AEROSPACE CTG

- States must submit RACT regulations/ revisions by March 27, 1999
- Sources will have to implement the required limitations and work practices by September 1, 1999

OTHER NESHAP THAT WILL AFFECT AEROSPACE INDUSTRY

- Halogenated Solvent (degreasing) NESHAP
- Chromium Electroplating NESHAP
- Miscellaneous Metal Parts NESHAP (nonstructural parts inside aircraft)
- Plastic Parts NESHAP
- Rocket Firing and Engine Testing NESHAP
- Friction Brake Manufacturing NESHAP
- R&D NESHAP
- Industrial Combustion Coordinated Rulemaking
- Chemical Strippers NESHAP

SOLVENT DEGREASING NESHAP

- Contacts: Paul Almodovar, EPA (technical)
  (919) 541-0283
  Ingrid Ward, EPA (implementation)
  (919) 541-0300

  - NESHAP promulgated December 2, 1994
  - Six solvents covered
  - New Project: Continuous Web Film Cleaners
  - Parts Cleaning
  - www.epa.gov/ttn/uatw/degrea/halopg.html

CHROMIUM ELECTROPLATING NESHAP

- Contact: Phil Mulrine, EPA
  (919) 541-5289

  — Promulgated January 25, 1995
  — Hard Chrome Electroplating
  — Decorative Chrome Electroplating
  — Chromium Anodizing Tanks
  — Plating Bath/Mist Emissions
  — Fume Suppressants

MISCELLANEOUS METAL PARTS NESHAP

- Contact: Bruce Moore, EPA
  (919) 541-5460

  — Overlap with other regulations
  — Surface coating operations
  — Ground support equipment
  — Seats / galley / furnishings
  — Promulgation date: November 2000

PLASTIC PARTS NESHAP

- Contact: Bruce Moore, EPA
  (919) 541-5460

  — Surface Coating Operations
  — Interior Components
  — Adhesives
  — Promulgation Date: November 2000

ROCKET FIRING AND ENGINE TESTING NESHAP

- Contact: George Smith, EPA
  (919) 541-1549

  — Rocket Testing
  — Jet Engine Testing
  — Nonaerospace Engines
  — Promulgation Date: November 2000

FRICTION PRODUCTS NESHAP

- Contact: Susan Zapata, EPA
  (919) 541-5167

  — Carbon Brake (Disc) Manufacturing
  — Aerospace: Military and Commercial
  — Site Visits: September 1998
  — Promulgation Date: November 2000

RESEARCH AND DEVELOPMENT NESHAP

- Contact: Keith Barnett, EPA
  (919) 541-5605

  — Onsite research and development activities
  — Overlap with several industries
  — “Project” evaluation phase

INDUSTRIAL COMBUSTION COORDINATED RULEMAKING

- Contact: Fred Porter, EPA
  (919) 541-5251

  — Stationary Turbines

  — NO_x (vs. HAP)

CHEMICAL STRIPPERS NESHAP

- Contact: Steve Fruh, EPA
  (919) 541-2837

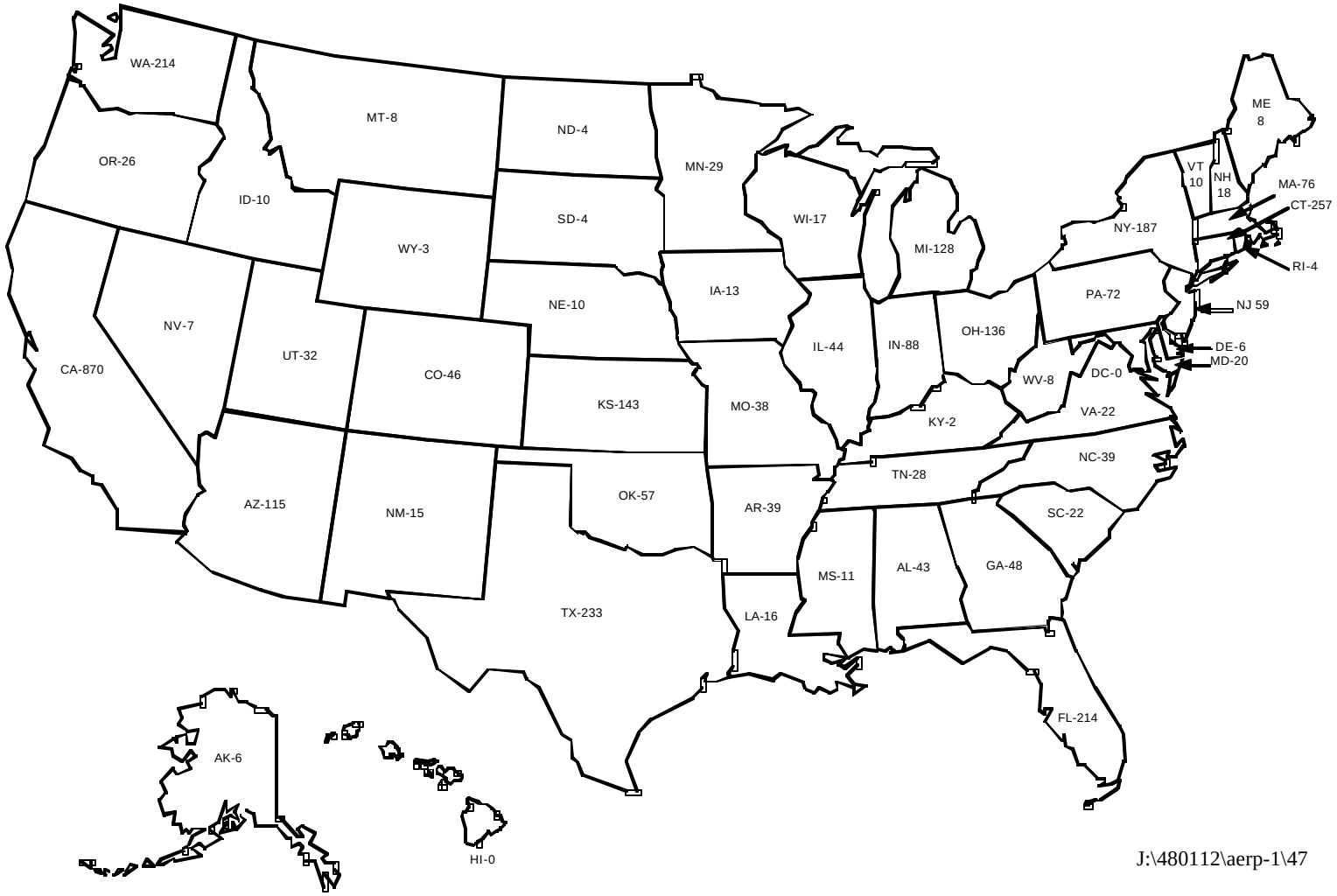
  — Started 6/98

  — Promulgation Date: November 2000

POLLUTION PREVENTION

- Alternative solvents
- Low (no) HAP/VOC coatings
- Low (no) HAP chemical strippers
- No coating on aircraft exteriors
- Material (metal) replacements

AEROSPACE NESHAP/CTG



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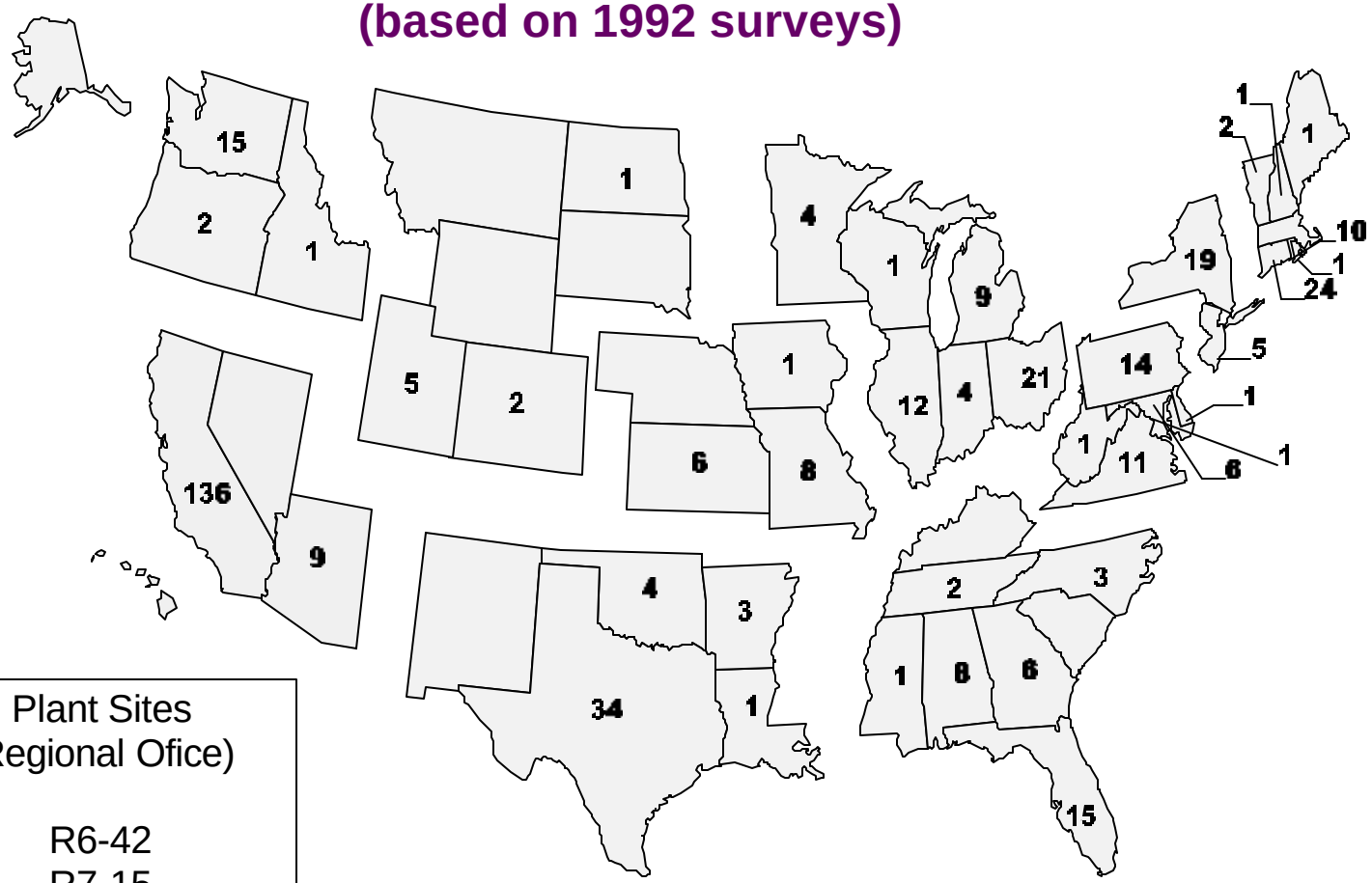
AEROSPACE MANUFACTURING AND REWORK PLANT SITES
(based on 1992 surveys)



No. Plant Sites
(per Regional Ofice)

R1 - 39	R6-42
R2-24	R7-15
R3-34	R8-8
R4-35	R9-145
R5-51	R10-18

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POLLUTION PREVENTION

- Federal Facilities Sector Notebook (http://es.epa.gov/oeca/sector/index.html)
- P2 opportunities (Chapter 5)
  - Aircraft maintenance
  - Vapor degreasing
  - Painting operations
  - Fuel storage
  - Electroplating